

**UNIVERSITY OF NAIROBI**  
**SCHOOL OF BIOLOGICAL SCIENCES**  
**SZL 101: INVERTEBRATE ZOOLOGY**

**A. PURPOSE**

To equip learners with a good general knowledge of the major invertebrates groups with emphasis on evolutionary relationships (phylogeny), comparative body structure, functional and adaptive significance of structural components of their bodies and importance.

**B. COURSE OBJECTIVES**

The objectives of this course unit are three-fold:

1. To introduce the learner to the world of invertebrates, their environments, the phylogenetic tree of the animal kingdom and the basic ideas on which it is based
2. To learn about the origin of invertebrates with emphasis on the levels structural organization of invertebrate body (cellular, tissue and organ) by looking at the major phyla in each level
3. To give a good general knowledge of the following major groups of invertebrates: The Protozoa, the sponges, the Coelenterates, the Platyhelminthes, the Aschelminthes, the Protostomes and Deuterostome invertebrates. (Only the major phyla in these groups will be covered in class and the learner will be encouraged to read on the minor phyla)

**C. EXPECTED LEARNING OUTCOME**

It is expected that by the end of the course unit the learner should be able to:

1. Describe the environments of invertebrates, their features, challenges and invertebrates adaptations for survival in these environments
2. Discuss the origin of invertebrates, levels of structural organization, the phylogenetic tree of animal kingdom and the basis of the classification schemes of invertebrates
3. Describe the characteristics, structure and functional significance of structural components of the following invertebrate phyla: Protozoa (Sarcomastigophora, Apicomplexa, Microspora, Ciliophora); Porifera; Coelenterates (Cnidaria ), Ctenophora; Platyhelminthes (flat worms); ASchelminthes (Nematoda); Mollusca; Annelida; Arthropoda; Echinodermata
4. Explain the economic importance of different invertebrate phyla

**D. COURSE CONTENT**

Introduction to invertebrates; Living things, invertebrate environments, origin of invertebrates; The Invertebrates: a survey of invertebrate groups emphasizing their habits, structural features, comparative functional anatomy and evolutionary relationships. The Protozoa phyla: Sarcomastigophora, Apicomplexa, Ciliophora, Microspora, Ascetospora, Myxozoa and Labyrinthomorpha. Metazoan phyla: Phylum Porifera, Cnidaria and Ctenophora, Platyhelminthes, Mesozoa, Nemertea. Ascelhelminths: Phylum Nematoda, Gastrotricha, Rotifera. The Coelomates: Phylum Mollusca, Annelida, Arthropoda; Phylum Echinodermata.

**E. TEACHING METHODS/ LEARNING METHODOLOGIES**

Reading, lectures, practical lessons, library research, group and class discussions, class presentations

**F. INSTRUCTIONAL MATERIALS/EQUIPMENT**

Laptop Pc, LCD projector, Screen, Textbooks, library, handouts, blackboard, whiteboard, charts, images

**G. EXPLANATION OF CONTINUOUS ASSESSMENT REQUIREMENTS**

**Continuous Assessment Test:** Students will do at least one sit-in CAT

**Class Presentation:** Students will be given sub-topics from the major phyla to be covered and will give a read, discuss and present to the class.

**Assignment:** Students will be given a question from the course content to evaluate and present a write-up on the same day as the class presentation.

**H. CONTINUOUS ASSESSMENTS**

This will be distributed as follows: Sit-in CAT, 15%; Class Presentations, 10%; Assignment, 5%. **Total 30%**

**I. EXAMINATION**

70%; Continuous Assessments: 30%; Total = 100%

**J. GRADING**

<b>Letter Grades</b>	A	B	C	D	E
<b>Grading Scale</b>	70-100	60-69	50-59	40-49	0-39

**K. RECOMMENDED TEXT BOOKS**

1. Robert D. Barnes (2008); Invertebrate Zoology; Cengage Learning (Thompson )
2. Anderson D. T. (2006); Invertebrate Zoology; Oxford University Press

**L. TEXT BOOKS FOR FURTHER READING**

1. Purves William (1995); Life Science of Biology; Freeman
2. The Invertebrates. Barnes, R.S.K. Callow, P and Olive, P.J.W.
3. Lecture Notes on Invertebrate Zoology. Laverack, M.S. & Dando, J.
4. Invertebrate Zoology. Jordan, E.L. & Verna, P.S.
5. The Invertebrates. Alexander, R.M.